

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

Claims 1-4 are canceled.

5. (Withdrawn) An adapter comprises:

a member including appropriate mating fittings to allow the member to connect to a battery or a source of fuel to a fuel cell system;

electronics to convert power incident at an input of the adapter to an output power level at the pair of spaced battery terminals of the member; and

a first pair of wires coupled between an input of the first member and output of the second member; and

a second pair of wires coupled from an input of the second member to an electronic plug.

6. (Withdrawn) The adapter of claim 5 wherein the member includes a wire coupled to an electronic plug.

7. (Withdrawn) The adapter of claim 5 wherein the appropriate mating fittings on the member include a pair of spaced battery terminals and an aperture to receive an ingress port on a fuel cell interconnect.

8. (Withdrawn) The adapter of claim 5 wherein the member includes electronics to convert power incident at an input of the adapter to an output power level at the pair of spaced battery terminal.

9. (Withdrawn) The adapter of claim 6 wherein the member includes electronics to convert power incident at an input of the adapter to an output power level at the pair of spaced battery terminal.

Claims 10-25 are canceled.

26. (Currently Amended) A hybrid power supply, comprising ~~comprises~~:
an adapter comprises:

a member including appropriate mating fittings on a common planar surface to allow the member to connect to a battery or a source of fuel for a fuel cell system for powering an electronic device and;

a switching type DC/DC boost type converter coupled to the member and which receives energy from a fuel cell or from an external battery connected to the member, and which is arranged to deliver the energy to a rechargeable cell, the DC/DC converter configured to provide substantially constant current drain from the fuel cell.

27. (Previously Presented) The hybrid power supply of claim 26, further comprising:

a circuit disposed to sense when a voltage is present across terminals of the member to cause power to be supplied to rechargeable battery from an external battery when the external battery is present or from a fuel cell when the battery is not present.

28. (Previously Presented) The hybrid power supply of claim 26 wherein the circuit includes a diode coupled between an output terminal of the fuel cell and a terminal of the member that connects an external battery to the hybrid supply.

29. (Previously Presented) The hybrid power supply of claim 27 wherein the circuit includes:

a first transistor biased through a resistor to conduct power from the fuel cell to a load;
and

a second transistor arranged where if an external battery is inserted, the gate voltage of the first transistor turns the transistor off, preventing connection of the fuel cell to the battery, and the second transistor is biased through a second resistor to conduct power from the battery to the load.

30. (Previously Presented) The hybrid power supply of claim 26, further comprising:
a circuit including a fuel cell current control that senses fuel cell current, and controls in part operation of the converter to provide constant current discharge on the fuel cell side of the hybrid power supply.

31. (Currently Amended) A hybrid power supply, comprising ~~comprises~~:
a fuel cell;
an adapter between the fuel cell and a fuel cartridge or external battery, the adapter comprises:
a member including appropriate mating fittings on a common planar surface to allow the member to connect to a battery or a source of fuel for a fuel cell system for powering an electronic device; and
a switching type DC/DC boost type converter that receives energy from the fuel cell or an external battery connected to the adapter interface and is arranged to deliver the energy to a rechargeable cell;
a fuel cell current sensor/comparator, included in a feedback control loop disposed about the DC/DC converter, which controls in part operation of the converter to provide constant current discharge on the fuel battery side of the hybrid power supply.

32. (Previously Presented) The hybrid power supply of claim 31, further comprising:

a fuel cell current sensor/comparator draws a constant current that is about equal to an optimal level of current to draw from the fuel cell to maximize fuel efficiency.

33. (Previously Presented) The hybrid power supply of claim 31 wherein the hybrid power supply is configured so that the fuel cell provides just above expected average power consumption for a particular application, and the rechargeable battery provides peak power requirements.

34. (Previously Presented) The hybrid power supply of claim 31 wherein the rechargeable cell is Li-Ion or Li-Polymer rechargeable cell.

35. (Previously Presented) The hybrid power supply of claim 31 wherein the circuit delivers an output voltage that corresponds to about 90% charge of the rechargeable cell.

36. (New) An adapter comprises:

a member including appropriate mating fittings on a common, planar surface to allow the member to connect to a battery or a source of fuel for a fuel cell system for powering an electronic device.

37. (New) The adapter of claim 36 wherein the appropriate mating fittings on the member include a pair of spaced battery terminals and an aperture to receive an ingress port on a fuel cell interconnect.

38. (New) The adapter of claim 36 wherein the member includes electronics to convert power incident at an input of the adapter to an output power level at a pair of output terminals of the adapter.

Applicant : Jordan T. Bourilkov et al.
Serial No. : 10/616,495
Filed : July 9, 2003
Page : 6 of 15

Attorney's Docket No.: 08935-292001 / M-5028/Z-
03489

39. (New) The adapter of claim 1 wherein the member includes a wire coupled to an electronic plug.